

## EXHIBIT 2

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

PARTEC AG and BF EXAQC AG,

Plaintiffs,

v.

MICROSOFT CORPORATION,

Defendant.

Case No. 2:24-cv-00433-JRG

**JURY TRIAL DEMANDED**

**DEFENDANT MICROSOFT'S INVALIDITY CONTENTIONS**

Because Microsoft has not yet completed discovery in this case, including taking depositions of the named inventors, and otherwise obtaining discovery from Plaintiffs and third parties, Microsoft reserves the right to supplement these contentions with facts, documents, or other information learned at a later point through discovery or further investigation.

**C. U.S. Patent No. 11,537,442**

Invalidity claim charts identifying disclosures in the references identified in the tables below as to the Asserted Claims of the '442 Patent are provided in attached Exhibits 442-1 through 442-7.

**Table 1-C: Prior Art Patents and Printed Publications for the '442 Patent**

<b>Patent No. or Title (Primary Inventor/Author)</b>	<b>Date of Issue/ Publication</b>	<b>Filing Date</b>
US 2018/0107524 A1 ("Fong")	4/19/2018	10/13/2016
WO 2012/049247 A1 ("Lippert")	4/19/2012	10/13/2011
US 2007/0283358 A1 ("Kasahara")	12/6/2007	1/23/2007
US 2017/0255877 A1 ("Cho")	9/7/2017	5/27/2016
WO 2015/127667 A1 ("Bhandarkar")	9/3/2015	2/28/2014
US 2017/0078373 A1 ("Hayavadana")	3/16/2017	9/9/2016
US 2016/0055612 A1 ("Barik")	2/25/2016	12/26/2014
US 2012/0079298 A1 ("Majumdar")	3/29/2012	4/4/2011
US 2012/0233486 A1 ("Phull")	9/13/2012	3/1/2012
US 2012/0054771 A1 ("771 Krishnamurthy")	3/1/2012	8/31/2010
US 2013/0219405 A1 ("Lee")	8/22/2013	8/14/2012
US 2017/0153920 A1 ("Scantlen")	6/1/2017	9/8/2016
US 2011/0161978 A1 ("Jang")	6/30/2011	7/23/2010
US 10,452,995 B2 ("Burger")	10/22/2019	6/29/2015
US 2018/0074855 A1 ("Kambatla")	3/15/2018	5/15/2017
US 2017/0262319 A1 ("Newburn")	9/14/2017	3/11/2016
US 2007/0294512 A1 ("Crutchfield")	12/20/2007	3/5/2007
Budenske et al. ("Budenske"), "A Method for the On-Line Use of Off-Line Derived Remappings of Iterative Automatic Target Recognition Tasks onto a Particular Class of Heterogeneous Parallel Platforms"	10/1/1998	
Kwok et al. ("Kwok '00"), "Implementation and Performance Study of a Semi-Static Approach to Mapping Dynamic Iterative Tasks onto Heterogeneous Computing Systems"	1/25/2000	

Patent No. or Title (Primary Inventor/Author)	Date of Issue/ Publication	Filing Date
Kwok et al. (“Kwok ’99”), “Evaluation of a Semi-Static Approach to Mapping Dynamic Iterative Tasks onto Heterogeneous Computing Systems”	6/23/1999	
Chen et al. (“Chen”), “Task Scheduling For Multi-Core And Parallel Architectures: Challenges, Solutions And Perspectives”	11/23/2017	
Belviranli et al. (“Belviranli”), “A Dynamic Self-Scheduling Scheme for Heterogeneous Multiprocessor Architectures”	1/20/2013	

**Table 2-C: Prior Art Systems and Inventions for the ’442 Patent**

Name of System or Invention <sup>49</sup>	Date of Sale / Offer for Sale / Public Use / Known by Others
YARN	2012
SLURM	2003
Roadrunner	June 2008
National Center for Supercomputing Applications (NCSA) Lincoln	February 2009
Cell Broadband Engine Architecture (CBEA)	November 2006
Keeneland Project or Keeneland Initial Delivery System (KIDS) or Keeneland Full Scale (KFS) (KEENELAND)	2010

**Table 3-C: Charts for the ’442 Patent**

Exhibit No.	Primary Prior Art Reference/System
442-1	Chen
442-2	Fong
442-3	Lippert
442-4	Kasahara
442-5	YARN
442-6	SLURM
442-7	Burger
442-8	103 References
442-9	KEENELAND

<sup>49</sup> “System” includes any relevant combination of hardware and/or software including, without limitation, computers, mobile phones and tablets, biometric scanners, smartcards, RFID systems, location trackers, etc

and services related to the subject matter of the cited references. As discovery is ongoing, Microsoft continues to investigate these items and to reserve the right to amend or supplement these contentions to include additional information or documents regarding such products and/or systems. In addition to contending that the '442 Patent's asserted claims are invalid in view of the explicit disclosures of the prior art references cited in the claim charts of the '442 Claim Charts, Microsoft further contends that the knowledge of skill evidenced by those references render those claims invalid. Microsoft further contends that, even if a prior art reference does not expressly disclose all limitations as arranged or combined in the same manner as an asserted claim, a skilled artisan reading the reference would at once envisage the claimed arrangement or combination. See, e.g., *Kennametal Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376 (Fed. Cir. 2015).

Furthermore, Microsoft incorporates by reference, as if set forth fully herein, all prior art cited during the prosecution of the '442 Patent, all prior art cited during reexamination proceedings of the '442 Patent, all prior art as described in any future *inter partes* review proceedings of the '442 Patent, and all prior art disclosed during previous litigation proceedings. Microsoft further identifies and hereby incorporates by reference as if set forth fully herein the prior art references and invalidity contentions as described in any other Plaintiffs Proceedings wherein invalidity contentions have been, or will be, provided regarding the '442 Patent, its foreign counterparts, or any parent or child patent of the '442 Patent. Microsoft reserves the right to use any and all portions of the publication, related publications, commercial embodiments of the publication, and other evidence that is discovered in these lawsuits to demonstrate and/or evidence the components, functionality, and capabilities of the devices and systems disclosed in the references charted.

#### **1. Specific Combinations**

For at least the reasons described below, it would have been obvious to one of ordinary skill in the art to combine each prior art reference listed in the '442 Claim Charts with any other

reference or references listed in the '442 Claim Charts along with the knowledge of one of ordinary skill in the art to arrive at the inventions claims in the '442 Patent.<sup>75</sup> For example, and without limitation, the Asserted Claims of the '442 Patent would have been obvious to one of ordinary skill in the art in view of the following combinations:

Prior Art	In Combination with One or More of:
Chen	Fong; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Burger; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; KEENELAND; Roadrunner; NCSA Lincoln; CBEA; and the knowledge of a person of ordinary skill in the art.
Fong	Chen; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Burger; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; KEENELAND; Roadrunner; NCSA Lincoln; CBEA; and the knowledge of a person of ordinary skill in the art.
Lippert	Chen; Fong; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Burger; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; KEENELAND; Roadrunner; NCSA Lincoln; CBEA; and the knowledge of a person of ordinary skill in the art.
Kasahara	Chen; Fong; Lippert; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Burger; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; KEENELAND; Roadrunner; NCSA Lincoln; CBEA; and the knowledge of a person of ordinary skill in the art.
YARN	Chen; Fong; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Burger; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli;

<sup>75</sup> Further, Defendants are actively searching for information regarding at least the systems, devices, and/or inventions listed above in Table 2-C. It would have been obvious to one of ordinary skill in the art to combine each of the prior art references listed in the '442 Claim Charts with any of the systems identified in Table 2-C. Defendants reserve the right to supplement or amend these contentions as discovery progresses, to the extent permitted by the Court.

Prior Art	In Combination with One or More of:
	KEENELAND; Roadrunner; NCSA Lincoln; CBEA; and the knowledge of a person of ordinary skill in the art.
SLURM	Chen; Fong; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Burger; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; KEENELAND; Roadrunner; NCSA Lincoln; CBEA; and the knowledge of a person of ordinary skill in the art.
Burger	Chen; Fong; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; KEENELAND; Roadrunner; NCSA Lincoln; CBEA; and the knowledge of a person of ordinary skill in the art.
KEENELAND	Chen; Fong; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; Roadrunner; NCSA Lincoln; CBEA; and the knowledge of a person of ordinary skill in the art.
Roadrunner	Chen; Fong; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; KEENELAND; NCSA Lincoln; CBEA; Archer, Barsness; and the knowledge of a person of ordinary skill in the art.
NCSA Lincoln	Chen; Fong; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; KEENELAND; Roadrunner; CBEA; and the knowledge of a person of ordinary skill in the art.
CBEA	Chen; Fong; Lippert; Kasahara; Cho; Bhandarkar; Hayavadana; Barik; Majumdar; Phull; '771 Krishnamurthy; Lee; Scantlen; Jang; Kambatla; Crutchfield; Newburn; Budenske; Kwok '00; Kwok '99; Belviranli; YARN; SLURM; KEENELAND; Roadrunner; NCSA Lincoln; and the knowledge of a person of ordinary skill in the art.

## 2. General Motivations to Combine

when comparing the claim as a whole to the prior art. Microsoft's identifications are made based on Microsoft's present understanding of the Asserted Claims and Plaintiffs' apparent interpretation of these claims as reflected in its Infringement Contentions, and Microsoft reserves the right to amend these identifications, including in response to claim constructions and claim interpretations that would render claim limitations not enabled, lacking in written description, or indefinite. To the extent a claim element is contained within an element identified below or encompass an element identified below, that claim element also renders the claim invalid under 35 U.S.C. § 112.

**A. Lack of Enablement and Written Description under 35 U.S.C. § 112 ¶ 1**

35 U.S.C. § 112 includes an enablement requirement: "The specification shall contain a written description . . . of the manner and process of making and using [the invention] in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same." 35 U.S.C. § 112, ¶ 1. To satisfy the enablement requirement, the disclosure "must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997); *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012); *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008). If a specification teaches away from a substantial portion of the claim or does not enable the full scope of the claim, there is no enablement. *AK Steel Corp. v. Sollac*, 344 F.3d 1234 (Fed. Cir. 2003); *see also MagSil Corp.*, 687 F.3d at 1383-84 (Fed. Cir. 2012).

35 U.S.C. § 112 further includes a written description requirement: "The specification shall contain a written description of the invention . . . ." 35 U.S.C. § 112, ¶ 1. "To satisfy the written description requirement, a patent applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention." *ICU Medical Inc. v. Alaris Medical Systems, Inc.*, 558 F.3d 1368, 1377 (Fed. Cir. 2009) (internal



quotation marks and citations omitted); *see also Synthes USA, LLC v. Spinal Kinetics, Inc.*, 734 F.3d 1332, 1340 (Fed. Cir. 2013). “The test [for written description support] requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art. Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc).

The specification must describe the claimed invention in sufficient detail so that a POSITA can recognize what is claimed. “The appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy that requirement.” *University of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 923 (Fed. Cir. 2004) (internal quotation marks and citations omitted).

Based on Microsoft’s present understanding of the Asserted Claims and Plaintiffs’ apparent interpretation of these claims as reflected in its Infringement Contentions, the following limitations of the Asserted Claims may fail to satisfy the requirements of § 112, ¶ 1 because the specifications and original patent applications fail to provide an enabling disclosure of and written description support for at least the following limitations:

**1. U.S. Patent No. 10,142,156**

<b>Term</b>	<b>Relevant Claim(s)</b>
“a plurality of hardware computation nodes, each of which interfaces with a communication infrastructure, at least two of the hardware computation nodes being arranged to jointly compute at least a first part of said computation task”	1
“computing, by at least two of the plurality of hardware computation nodes, at least a first part of a computation task, the at least two of the hardware computation nodes interfacing with a communication infrastructure”	14
“after having been assigned to at least one hardware computation node and under control of that at least one hardware computation	1

Term	Relevant Claim(s)
node, the at least one hardware booster interfacing with the communication infrastructure”	
“computing, by the at least one hardware booster assigned to the one hardware computation node, at least a second, specific part of said computation task, the at least one hardware booster interfacing with said communication infrastructure”	14
“a resource manager being arranged to assign the at least one hardware booster to the at least one hardware computation node”	1
“during said processing of said computation task . . . establishing a dynamic assignment”	1, 14
“at least one of the plurality of hardware computation nodes is assigned to and shared by more than one of the plurality of hardware computation nodes”	1, 14
“each of the hardware boosters is assignable to each of the hardware computation nodes”	1, 14
“initially assigning, by the resource manager, at least one hardware booster of the plurality of hardware boosters to one hardware computation node”	14
“virtual interface”	9

## 2. U.S. Patent No. 11,934,883

Term	Relevant Claim(s)
“the plurality of hardware computation nodes and the plurality of hardware boosters each interfacing a communication infrastructure”	1
“ each computation node of the plurality of computation nodes interfacing a communication infrastructure”	13
“assign a selected hardware booster of the plurality of hardware boosters to a first hardware computation node of the plurality of hardware computation nodes for computation of a part of the computation task”	1
“assigning a selected booster of a plurality of boosters to a first computation node of the plurality of computation nodes by a resource manager”	13
“initialize a static assignment and further to establish a dynamic assignment during the processing of the computation task”	1
“accomplish the assignments as a function of a predetermined assignment metric”	1
“assignment being accomplished”	13
“provide the static assignment at the start of the processing of the computation task by using the predetermined assignment metric”	1
“virtual interface”	8

**3. U.S. Patent No. 11,537,442**

<b>Term</b>	<b>Relevant Claim(s)</b>
“computation task”	1, 3, 4
“being arranged to compute a computation task”	1
“a first computing iteration”	1, 3, 7, 9
“at least a portion of the plurality of computation nodes”	1, 9
“at least a portion of the plurality of booster nodes”	1
“assigning and processing the plurality of sub-tasks by at least a portion of the plurality of computation nodes and at least a portion of the plurality of booster nodes in a first distribution”	1
“a communication interface connecting the plurality of computation nodes with each other and the plurality of booster nodes”	9
“a resource manager for assigning at least a portion of the plurality of booster nodes and at least a portion of the plurality of computation nodes to each other for the computing of the one or more tasks in a first computing iteration”	9
“to update a distribution of the multiple sub-tasks between the plurality of computation nodes and the plurality of booster nodes in a further computing iteration”	9
“first distribution”	1, 6
“generating ... a further distribution”	1
“further distribution”	1-3
“a further computing iteration”	1, 7, 9
“a function of the computation task”	3
“a grouping of sub-tasks”	7
“a measure of a loading”	8
“a loading”	8

**B. Indefiniteness Under 35 U.S.C. § 112, ¶ 2**

Section 112, ¶ 2 includes a definiteness requirement: “[T]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2. “[A] patent is invalid for indefiniteness if its claims, read in light of the patent’s specification and prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

The definiteness requirement requires that the claim must set forth what the applicant regards as the invention, and do so with sufficient particularity and definiteness. *Allen Eng'g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1348 (Fed. Cir. 2002). Where it would be apparent to one of skill in the art, based on the patent specification, that the “invention” set forth in a claim is not what the patent applicant regarded as the invention, the claim is invalid. *Id.*

Based on Microsoft’s present understanding of the Asserted Claims and Plaintiffs’ apparent interpretation of these claims as reflected in its Infringement Contentions, the following limitations of the Asserted Claims may fail to satisfy the requirements of § 112, ¶ 2 because the precise scope of at least the terms listed below cannot be determined with reasonable certainty by a POSITA when reading the claims in light of the specification and prosecution history.

**1. U.S. Patent No. 10,142,156**

Term	Relevant Claim(s)
“first interfacing unit”	8, 9
“second interfacing unit”	8, 9
“virtual interface”	9

**2. U.S. Patent No. 11,934,883**

Term	Relevant Claim(s)
“an interfacing unit”	8, 9
“virtual interface”	9

**VIII. INVALIDITY UNDER 35 U.S.C. § 101**

Microsoft further asserts that certain of the asserted patents are ineligible for patent protection under 35 U.S.C. § 101. To the extent that Microsoft identifies a defect that is also present in a claim of the asserted patents that is not at issue in this case (i.e., a claim that is not one of the Asserted Claims), Microsoft contends that such claim is also ineligible for patent protection.

Based on Microsoft's investigation to date and currently-available information, the following patents are ineligible for patent protection.

To be patentable subject matter under § 101, a claim must be directed to one of four eligible subject matter categories: “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. “Claims that fall within one of the four subject matter categories may nevertheless be ineligible if they encompass laws of nature, physical phenomena, or abstract ideas.” *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014) (citing *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980)). The Supreme Court established a two-step test for deciding the subject matter eligibility of claims under § 101. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). First, the claims must be analyzed to determine whether they are drawn to one of the statutory exceptions. *Id.* Claims that invoke generic computer components instead of reciting specific improvements in computer capabilities are abstract under this first step. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335-36 (Fed. Cir. 2016). Second, the elements of the claims must be viewed both individually and as an ordered combination to see if there is an “inventive concept.” *Id.* The mere fact that a claim recites or implies that an abstract idea is implemented using a general-purpose computer does not supply an inventive concept necessary to satisfy § 101. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1355 (Fed. Cir. 2016); *Alice*, 134 S. Ct. at 2357-59.

**A. U.S. Patent Nos. 10,142,156 and 11,934,883 (“Task Assignment Patents”)**

All of the Asserted Claims of the '156 and '883 Patents are directed to ineligible subject matter under 35 U.S.C. § 101 and applicable case law authority.<sup>84</sup>

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<sup>84</sup> See, e.g., *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012); *Trading Techs. Int'l, Inc. v. IBG, LLC*, 921 F.3d 1084 (Fed. Cir. 2019); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759 (Fed. Cir. 2019); *SAP America, Inc. v. InvestPic, LLC*,

The '156 and '883 Patents' Asserted Claims are directed to abstract ideas and therefore not eligible subject matter under 35 U.S.C. § 101. *E.g., Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 573 U.S. 208, 216 (2014). By way of example, the Asserted Claims of the '156 and '883 Patents are generally directed to the abstract ideas of assigning, processing, and updating information. Each of the asserted claims are directed to the abstract idea of assigning a part of a computation task based on a predetermined assignment metric, processing a portion of the part of the computation task, and updating the predetermined assignment metric. The '156 and '883 Patents discuss that the purported problem of a static assignment of accelerators to computing nodes that leads to over- or under-subscription of accelerators (e.g., potentially leading to either a lack of computing resources or an excess supply of computing resources). Yet, none of the asserted claims of any of the '156 and '883 Patents nor any the specifications of the '156 and '883 Patents disclose any technological improvement to any technological problem; instead the claimed features merely apply conventional, generic resource management technologies. It is unclear what the claimed advancement is over the prior art. Thus, under *Alice* Step 1, the '156 and '883 Patent's asserted claims are directed to one or more ineligible concepts.

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898 F.3d 1161 (Fed. Cir. 2018); *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335 (Fed. Cir. 2018); *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121 (Fed. Cir. 2018); *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329 (Fed. Cir. 2017), cert. denied, 139 S. Ct. 378 (2018); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332 (Fed. Cir. 2017); *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229 (Fed. Cir. 2016); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253 (Fed. Cir. 2016); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016); *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363 (Fed. Cir. 2015); *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343 (Fed. Cir. 2015); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343 (Fed. Cir. 2014); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350 (Fed. Cir. 2014); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011); *Automated Tracking Sols., LLC v. Coca-Cola Co.*, 723 F. App'x 989 (Fed. Cir. 2018); *EasyWeb Innovations, LLC v. Twitter, Inc.*, 689 F. App'x 969, 971 (Fed. Cir. 2017); *Yu v. Apple Inc.*, 1 F.4th 1040 (Fed. Cir. 2021).

Under *Alice* Step 2, the '156 and '883 Patents do not add an inventive step to the general abstract idea. The asserted claims of the '156 and '883 Patents recite a generic computer cluster arrangement that includes hardware computation nodes, hardware boosters, and resource manager technologies at the highest level of abstraction, which does not add anything particularly inventive to the asserted claims. *See, e.g., Yu v. Apple Inc.*, 1 F.4th 1040, 1043 (Fed. Cir. 2021) (“Only conventional camera components are recited to effectuate the resulting ‘enhanced’ image—two image sensors, two lenses, an analog-to-digital converting circuitry, an image memory, and a digital image processor. Indeed, it is undisputed that these components were well-known and conventional.”); *see also id.* at 1045 (“Because claim 1 is recited at a high level of generality and merely invokes well-understood, routine, conventional components to apply the abstract idea identified above ... claim 1 fails at step two, *see, e.g., Alice*, 573 U.S. at 225–26, 134 S.Ct. 2347; *Mayo*, 566 U.S. at 73, 132 S.Ct. 1289; *see also, e.g., In re TLI Commc’ns*, 823 F.3d at 615 (concluding patent claims ineligible at step two in part because ‘the recited physical components behave exactly as expected according to their ordinary use’).”). As described in the prior art disclosed in Section IV and in light of the known technologies and art described in Section III.C., these components were conventional, not novel, and even considered collectively, the limitations of the asserted claims of the '156 and '883 Patents amount to nothing more than assigning, processing, and updating information using conventional components.

**B. U.S. Patent No. 11,537,442 (“Computing Iterations Patent”)**

All of the Asserted Claims of the '442 Patent are directed to ineligible subject matter under 35 U.S.C. § 101 and applicable case law authority.<sup>85</sup>

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<sup>85</sup> *See* n.49, *supra*.

The '442 Patent's Asserted Claims are directed to abstract ideas and therefore not eligible subject matter under 35 U.S.C. § 101. *E.g., Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 573 U.S. 208, 216 (2014). By way of example, the Asserted Claims of the '442 Patent are generally directed to the abstract idea of assigning, processing, and generating information. Each of the asserted claims is directed to the abstract idea of assigning sub-tasks, processing the sub-tasks, and generating information based on the processing of the sub-tasks. The '442 Patent discusses that the purported problem of insufficient use of a computer hierarchy because of the inherent inflexibility and lack of adaptability of a static mapping and tailoring of computation tasks and sub-tasks to a computer architecture. Yet, none of the asserted claims of any of the '442 Patent nor the specification of the '442 Patent disclose any technological improvement to any technological problem; instead the claimed features merely apply conventional, generic resource management of computing tasks. It is unclear what the claimed advance is over the prior art. Thus, under *Alice* Step 1, the '042, '289, and '960 Patents Asserted Claims are directed to one or more ineligible concepts.

Under *Alice* Step 2, the '442 Patent does not add an inventive step to the general abstract idea. The asserted claims of the '442 Patent recite a generic heterogeneous computing system that includes generic computation nodes, generic booster nodes for generating information related to processing technologies at the highest level of abstraction, which does not add anything particularly inventive to the asserted claims. *See, e.g., Yu v. Apple Inc.*, 1 F.4th 1040, 1043 (Fed. Cir. 2021) ("Only conventional camera components are recited to effectuate the resulting 'enhanced' image—two image sensors, two lenses, an analog-to-digital converting circuitry, an image memory, and a digital image processor. Indeed, it is undisputed that these components were well-known and conventional."); *see also id.* at 1045 ("Because claim 1 is recited at a high level



of generality and merely invokes well-understood, routine, conventional components to apply the abstract idea identified above ... claim 1 fails at step two, *see, e.g., Alice*, 573 U.S. at 225–26, 134 S.Ct. 2347; *Mayo*, 566 U.S. at 73, 132 S.Ct. 1289; *see also, e.g., In re TLI Commc'ns*, 823 F.3d at 615 (concluding patent claims ineligible at step two in part because ‘the recited physical components behave exactly as expected according to their ordinary use’).”). As described in the prior art disclosed in Section IV and in light of the known technologies and art described in Section III.C., these components were conventional, not novel, and even considered collectively, the limitations of the asserted claims of the ’442 Patent amount to nothing more than assigning, processing, and generating information using conventional components.

#### **IX. DOCUMENT PRODUCTION ACCOMPANYING INVALIDITY CONTENTIONS**

Microsoft is producing and/or making available for inspection documents required under the Court’s Scheduling Order under a separate letter. Microsoft reserves the right to produce and rely on additional documents relating to its products in view of, for example, additional information revealed during discovery regarding Plaintiffs’ allegations and/or amendments to Plaintiffs’ Infringement Contentions as discovery processes, including the testimony of inventors, authors and publishers of the printed publications and prior art systems identified herein.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I certify that a true and correct copy of the above and foregoing document was served on counsel for Plaintiffs, via electronic delivery on March 6, 2025.

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